

New Proposed Claims
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(New) A distributed file storage system comprising:

a first storage unit comprising:

a first storage device configured to store data;

a first processor configured to execute at least one software module that processes read requests for user files stored on the distributed file storage system, the at least one software module comprising:

a first data allocation manager module configured to locate, in response to read requests, storage locations in the distributed file storage system corresponding to user files, wherein for each user file there is a separate address file comprising storage locations for file content data, the separate address file stored on at least one, but not all, storage units in the distributed file storage system;

a first data cache module configured to cache data associated with read requests;

a first local data manager module configured to manage data at storage locations local to the first storage unit;

a first remote data manager module configured to communicate with other storage units that store data at storage locations remote to the first storage unit; and

a first storage device module configured to operate the first storage device;

a second storage unit comprising:

a second storage device configured to store data;

a second processor configured to execute at least one software module that processes read requests for user files stored on the distributed file storage system, the at least one software module comprising:

a second data allocation manager module configured to locate, in response to read requests, storage locations in the distributed file storage

system corresponding to user files, wherein for each user file there is a separate address file comprising storage locations for file content data, the separate address file stored on at least one, but not all, storage units in the distributed file storage system;

a second data cache module configured to cache data associated with read requests;

a second local data manager module configured to manage data at storage locations local to the second storage unit;

a second remote data manager module configured to communicate with other storage units that store data at storage locations remote to the second storage unit; and

a second storage device module configured to operate the second storage device;

a third storage unit comprising:

a third storage device configured to store data;

a third processor configured to execute at least one software module that processes read requests for user files stored on the distributed file storage system, the at least one software module comprising:

a third data allocation manager module configured to locate, in response to read requests, storage locations in the distributed file storage system corresponding to user files, wherein for each user file there is a separate address file comprising storage locations for file content data, the separate address file stored on at least one, but not all, storage units in the distributed file storage system;

a third data cache module configured to cache data associated with read requests;

a third local data manager module configured to manage data at storage locations local to the third storage unit;

a third remote data manager module configured to communicate with other storage units that store data at storage locations remote to the third storage unit; and

a third storage device module configured to operate the third storage device;

wherein the first storage unit, the second storage unit, and the third storage unit communicate with each other and operate together to process read requests for files stored on the distributed file storage system, the first storage unit, the second storage unit, and the third storage unit configured to respond to read requests.

(New) A distributed file storage system comprising:

multiple storage units in communication with each other, each configured to process file read requests on behalf of the distributed file storage system, and each comprising:

a storage device configured to store data;

a processor configured to execute at least one software module that processes read requests for user files stored on the distributed file storage system, the at least one software module comprising:

a data allocation manager module configured to locate, in response to read requests, storage locations in the distributed file storage system corresponding to user files, wherein for each user file there is a separate address file comprising storage locations for file content data, the separate address file stored on at least one, but not all, of the multiple storage units;

a data cache module configured to cache data associated with read requests;

a local data manager module configured to manage data at local storage locations;

a remote data manager module configured to communicate with other storage units that store data at storage locations remote to the storage unit; and

a storage device module configured to operate the storage device.

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